CHAPTER 4

DOCKAGE-FREE PEAS

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Attachment - Grades and Grade Requirements for Dockage-Free Peas

4.1 DEFINITIONS

Dockage-Free Dry Peas. Dry peas from which the dockage has been removed.

Dry Peas. Threshed seeds of the pea plant (Pisum sativum L.) and the winter field pea plant (Pisum sativum var arvense (L.) Poir.) which after the removal of dockage contains 50 percent or more of whole peas and not more than 10.0 percent of foreign material.

Split Peas. The halves or smaller pieces of dry peas, and dry peas in which the halves are loosely held together.

Thresher-Run Dry Peas. Dry peas from which the dockage has not been removed.

4.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of whole dry peas, except Mixed Dry peas, are shown in the United States Standards for Whole Dry Peas (section 68.406) and in the Attachment, "Grades and Grade Requirements for Dockage-Free Peas," to this chapter.

4.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

a. The special grades and special grade requirements of all classes of Whole Dry peas are shown in the United States Standards for Whole Dry Peas (section 68.408).

b. A special grade, when applicable, is supplemental to the grade assigned. Such special grades for Whole Dry peas are defined as follows:

(1) Large. Peas of the classes Smooth Green Dry Peas or Smooth Yellow Dry Peas of which not more than 3.0 percent of the peas will readily pass through the 16/64-inch round-hole sieve.

(2) Small. Peas of the classes Smooth Green Dry Peas or Smooth Yellow Dry Peas of which not more than 3.0 percent of the peas will remain on the 16/64-inch round-hole sieve and not more than 3.0 percent will readily pass through the 10/64- x 3/4-inch slotted-hole sieve.

4.4 WORK RECORD

Record the results of all tests and findings clearly and accurately on a laboratory ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel shall use either form FGIS-981, "Pea and Lentil Laboratory Ticket," or form FGIS-982, "Pea and Lentil Sample Ticket." Cooperators shall use a similar form.

NOTE: For submitted sample inspections, results may be recorded on a form FGIS-994, "Commodity Certificate - Submitted Sample Inspection," or similar form.

4.5 REPRESENTATIVE PORTION

A specified quantity of peas divided out from the representative sample by means of an FGIS approved device.

4.6 WORK SAMPLE

A representative portion of peas (approximate size - 1,000 grams) that is used to make all such determinations required for a particular class of peas.

4.7 FILE SAMPLE

a. A representative portion of peas (approximate size - 1,000 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, retest, and appeal inspection purposes.

b. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See FGIS Directive 9170.13, "Uniform File Sample Retention System," for additional information.

4.8 PERCENTAGES

a. Percentages are determined upon the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

(2) When the figure to be rounded is followed by a figure less than 5, retain the figure; e.g., report 8.34 as 8.3, and 1.22 as 1.2.

b. Record factor results to the nearest tenth percent.

4.9 LABORATORY SCALES

Weigh samples and portions of samples using the proper class of FGIS approved laboratory scales, and record the results to the correct division size. Use the table below to determine the scale class and division size required for weighing particular sized samples.

Table 1 - Laboratory Scales

Position Size	Scale Class	Maximum Division Size	Record Results to at Least the Nearest--
120 grams or less	Precision	0.01 gram	0.01 gram
Samples for moisture determinations	Precision or Moisture	0.1 gram	0.1 gram
More than 120 grams	Precision, Moisture, or General	1 gram	1 gram

NOTE: See Chapter 2 of the Equipment Handbook for additional information.

4.10 PRELIMINARY EXAMINATION

a. The sampler must: (1) observe the uniformity of the peas as to class, quality, and condition; (2) make the determination for "Heating;" (3) draw the representative sample; and (4) report relevant information to the inspector.

b. The inspector must review the sampler's remarks/information. If the inspector has questions or doubts the representativeness of the sample, he or she must contact the sampler and obtain the needed information or make arrangements to obtain another sample.

4.11 BASIS OF DETERMINATION

Color shall be determined after the removal of dockage, defective peas, and foreign material.

Defects in peas shall be scored in accordance with the order shown in section 868.402(d); and once an individual pea is scored in a defective category, it shall not be scored for any other defect. Percentages for all categories of defects shall be calculated on the basis of the total weight of the sample analyzed for defective peas.

NOTE 1: When peas that are offered for inspection as one lot are found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of peas, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers or 1,000,000 pounds or less. Inspect each sublot separately.

NOTE 2: When peas that are offered for inspection as one lot are subsequently found to contain portions that are distinctly different in class, quality, or condition, the peas in each portion shall be inspected separately.

Follow a systematic grading procedure. The order of procedure varies with the class and quality of the peas and the tests that are required to determine the grade. A general order of procedure is as follows:

(1) Review the information on the sample ticket.

(2) Examine the representative sample for odor, broken glass, metal fragments, and distinctly low quality.

(3) Use an FGIS approved divider to process the representative sample into three representative portions: (a) a work sample, (b) a file sample, and (c) a moisture portion.

NOTE: For specific information on the operation and maintenance of dividers, see Chapter 7 of the Equipment Handbook.

(4) Examine the work sample for class and infestation.

(5) Divide out a 250-gram portion. When necessary, sieve the portion to determine if the peas meet the size requirements for "large" or "small" peas, or for applying numerical grades.

(6) Examine the 250-gram portion for defective peas, other classes, and foreign material.

(7) After removing the defective peas and foreign material from the portion, examine the "clean" portion for color.

4.12 INSECT INFESTATION

NOTE: "Weevils" shall include pea weevils, coffee bean weevils, broad nosed grain weevils, rice weevils, granary weevils, maize weevils, and lesser grain borers. "Other live insects" shall include beetles, moths, meal worms, and other insects injurious to stored peas.

a. Determine infestation on the basis of the work sample as a whole, a representative portion of approximately 250 grams, and the lot as a whole.

(1) Perform a cursory examination of the work sample. If two or more live insects are found, consider the peas to be "U.S. Sample grade."

(2) Closely examine a representative portion of approximately 250 grams divided out from the work sample.

(a) If no live insects are found in the sample, make no further check of the sample for insects.

(b) If two or more live insects are found, consider the peas to be "U.S. Sample grade."

(c) If one live insect is found, examine the remainder of the work sample.

1 If one or more live insects are found in the remainder of the work sample, consider the peas to be "U.S. Sample grade."

2 If no live insects are found in the remainder of the work sample, do not consider the peas to be "U.S. Sample grade."

(3) Examine the peas in the lot; i.e., the surface area of the lot and the area around the lot.

NOTE: The presence of pea weevils in a warehouse should not be considered an indication of infestation unless pea weevils are also found inside bags or containers of peas.

(a) If no live insects are found in, on, or about the lot, make no further check of the lot for insects.

(b) If two or more live insects are found, consider the peas to be "U.S. Sample grade."

b. When applicable, show "U.S. Sample grade on account of live insects" on the work record and in the ARemarks@ section of the certificate, and grade the peas "U.S. Sample grade."

4.13 MOISTURE

Moisture. Water content in whole peas as determined by an approved device in accordance with procedures prescribed in the inspection handbook for dry peas, split peas, and lentils, and the Equipment Handbook. For the purpose of this paragraph, Aapproved device@ shall include the Motomco Moisture Meter and any other equipment that is approved by the Administrator as giving equivalent results.

a. Determine moisture on a representative portion of exactly 250 grams.

b. Refer to Chapter 5 of the Moisture Handbook for information about determining moisture using the Motomco Moisture Meter.

NOTE: If a representative portion of the original sample of peas was not placed in a moisture proof container at the time of sampling, promptly do so upon arrival at the laboratory. Seal the container with a friction or screw-top lid to preserve the moisture. The use of open containers, paper containers, and similar containers for holding moisture samples is prohibited.

c. Record the percent of moisture on the work record to the nearest tenth percent. If the moisture results exceed 15.0 percent, grade the peas "U.S. Sample grade."

4.14 CLASS

Peas shall be divided into the following classes:

Smooth Green Dry Peas. Dry peas of the garden type which have smooth seedcoats and green cotyledons and contain not more than 1.5 percent of other classes.

Smooth Yellow Dry Peas. Dry peas of the garden type which have smooth seedcoats and yellow cotyledons and contain not more than 1.5 percent of other classes.

Wrinkled Dry Peas. Dry peas of the garden type which have wrinkled seedcoats and contain not more than 1.5 percent of other classes.

Winter Dry Peas. Dry peas of the winter field pea type which contain not more than 1.5 percent of other classes.

Miscellaneous Dry Peas. Dry peas that do not meet the criteria for any other class of dry peas and contain not more than 1.5 percent of other classes. (The grade limits for the factor Bleached peas shall not apply to Miscellaneous Dry peas, except for Marrowfat-type Dry peas.)

Mixed Dry Peas. Any mixture that does not meet the requirements for the classes Smooth Green, Smooth Yellow, Wrinkled, Winter, or Miscellaneous Dry peas; or any mixture of different types of Miscellaneous Dry peas.

a. Class is usually determined by a cursory examination of the work sample as a whole.

b. When a detailed examination is necessary, make this determination on a representative portion of approximately 250 grams.

c. If the peas contain more than 1.5 percent of "other classes:"

(1) Record the percent of each class on the work record to the nearest tenth percent.

(2) Grade the peas "Mixed Dry peas," and record the percent of each class of peas, to the nearest whole percent, in order of predominance, on the gradeline of the certificate. (If more than two classes are present, show the percent of each class to the nearest tenth percent.)

4.15 ODOR

a. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

(1) Off-odors (i.e., musty, sour, and commercially objectionable odors) are usually detected at the time of sampling.

(a) If there is any question as to the odor when the sample is being taken, put part of the sample into an airtight container to preserve its condition for further examination in the laboratory.

(b) Return the portion to the sample before other tests are made.

(2) A musty odor shall be any odor that is earthy, moldy, and ground-like. Do not confuse a burlap bag odor with a musty odor.

(3) A sour odor shall be any odor that is rancid, sharp, or acrid.

(4) A commercially objectionable odor shall be any odor that is not normal to dry peas and that, because of its presence, renders the dry peas unfit for normal commercial usage; e.g., animal hides, fertilizer, oil products, skunk, smoke, fire-burnt, and decaying animal and vegetable matter odors.

(5) Fumigant or insecticide odors are considered commercially objectionable odors if they linger and do not dissipate. When a sample of peas contains a fumigant or insecticide odor that prohibits a determination as to whether any other odor(s) exists, apply the following guidelines:

(a) Original Inspections. Allow the work portion to aerate in an open container for a period not to exceed 4 hours.

(b) Appeal and Board Appeal Inspections. Allow unworked file samples and new samples to aerate in an open container for a period not to exceed 4 hours. The 4-hour aeration requirement does not apply when the original work portion was aerated and retained as the final file.

(c) Final Action. Consider the sample as having a commercially objectionable odor if the fumigant or insecticide odor persists based on the above criteria.

b. When peas are determined to be musty, sour, or have a commercially objectionable odor, record the type of odor on the work record and in the ARemarks@ section of the certificate, and grade the peas "U.S. Sample grade."

4.16 HEATING

a. Determine heating on the basis of the lot as a whole.

(1) When high temperatures develop in dry peas as the result of excessive respiration, such peas are heating.

(2) Heating peas usually give off a sour or musty odor.

(3) Care should be taken never to confuse peas that are warm due to storage in bins, cars, or other containers during hot weather with peas that are heating from excessive respiration.

b. When applicable, show the term "Heating" on the work record and in the ARemarks@ section of the certificate, and grade the peas "U.S. Sample grade."

4.17 DEFECTIVE PEAS

The categories of defective peas shall be weevil-damaged peas, heat-damaged peas, damaged peas, other classes, bleached peas, split peas, shriveled peas, and peas with cracked seedcoats.

a. Determine defective peas on a representative portion of approximately 250 grams.

b. Score defects in the following order: Weevil-damaged, heat-damaged, damaged, other classes, bleached peas, split peas, shriveled peas, and peas with cracked seedcoats.

(1) Once an individual pea is scored, do not score it for any other defect but retain it as part of the sample for purposes of determining the percentage of total defects in the sample.

(2) Record the percent of each type of defect on the work record and the certificate to the nearest tenth percent.

4.18 WEEVIL-DAMAGED PEAS

Weevil-Damaged Peas. Whole and pieces of dry peas which are distinctly damaged by the pea weevil or other insects.

a. Determine weevil-damaged peas on a representative portion of approximately 250 grams.

(1) Weevil-eaten damage. Peas which have been eaten by weevils to the extent that the peas are light in weight and can be removed readily from the sound peas in the processing plant by either a gravity machine or brine solution. (See ILS - Peas 1.6.)

(2) Pinhole damage.

(a) Peas which have been stung by the pea weevil or other insect, and the damage extends into the cotyledon. Peas that have been "marked" by insects but where the sting does not penetrate the cotyledon are not considered weevil-damaged peas. (See ILS - Peas 1.6.)

(b) Peas containing dead larvae in which the cavities are small (e.g., about dull pencil lead size). (See ILS - Peas 1.6.)

NOTE: Any pea that contains or has contained a weevil or a larvae of the pea weevil is considered weevil-damaged.

b. Weevil-damaged peas are usually bleached in appearance and show a discolored window which indicates the presence of larvae within the pea. There are two methods of determining weevil damage.

(1) Visual Examination.

(a) Examine each pea for evidence of weevil stings or boring.

(b) If a pea has been stung, cut the pea to determine the extent of the penetration and whether it contains a live insect.

(2) Brine Solution Test.

NOTE 1: Complete all other factor examinations before soaking the peas in a brine solution.

NOTE 2: This method is not satisfactory for wrinkled peas as the wrinkles form pockets which may cause many sound peas to float along with the weevil-damaged peas.

(a) Place a wire basket (a tube 6 inches wide by 7 inches deep, eight-mesh-per-inch screen) in a stone jar. Fill the stone jar about half full with water. Then, add calcium chloride until a specific gravity of 1.225 is reached.

(b) Pour the representative portion into the screen and stir so that all air pockets are eliminated.

(c) Use a tea strainer-type ladle to lift out the peas which float on top of the solution. Peas that float are normally weevil-damaged, but this should be confirmed by visual examination.

(d) Skim off the peas that float and thoroughly rinse them under running water.

(e) Partially dry the "floaters" on blotter trays. Then place the peas in heater trays (wire screens having 1/8-inch openings), set the trays in a heater/dryer until all the surface moisture has disappeared, and visually examine for weevil-damage.

c. Record the percent of weevil-damaged peas (total of those found by visual examination and by brine solution test) on the work record and the certificate to the nearest tenth percent.

4.19 HEAT-DAMAGED PEAS

Heat-Damaged Peas. *Whole and pieces of dry peas which have been materially discolored as a result of heating.*

a. Determine heat-damaged peas on a representative portion of approximately 250 grams.

b. Record the percent of heat-damaged peas on the work record and the certificate to the nearest tenth percent.

4.20 DAMAGED PEAS

Damaged Peas. Whole and pieces of dry peas which are distinctly: (1) damaged by frost, weather, disease, heat (other than materially discolored as a result of heating), or other causes; and (2) soiled or stained by dirt (not applicable for the class Wrinkled Dry peas).

Damaged peas shall not include weevil-damaged peas or heat-damaged peas.

a. Determine damaged peas on a representative portion of approximately 250 grams.

b. The major types of damaged peas are as follows:

(1) Dirt and Grime Damaged Peas. Peas and pieces of peas with dirt or grime (including nightshade juice) adhering to the seedcoat equal to or greater than that shown on ILS - Peas 1.1.

NOTE: Dirt and grime damage does not apply to the class Wrinkled Dry peas or smooth seeded peas grown for seed purposes.

(2) Frost Damaged Peas. Peas and pieces of peas which have been damaged by frost to the extent that the cotyledon has been discolored green with an area of coverage and intensity equal to or greater than shown on ILS - Peas 1.8. Frost damage is indicated by the appearance of the whole pea, but the actual determination for damage shall be made on the basis of the opened pea.

(3) Mold Damaged Peas. Peas and pieces of peas which contain mold equal to or greater than that shown on ILS - Peas 1.4. Mold may appear on or around the hilum, the surface, and/or the cotyledon. A pea that contains any mold on the cotyledon shall be considered damaged.

(4) Sprout Damaged Peas. Peas and pieces of peas which are sprouted in which the sprout is equal to or greater than that shown on ILS - Peas 1.5.

(5) Badly Shriveled Peas. Peas that are shriveled and discolored to a deep brown or reddish cast.

(6) Worm-Eaten or Worm-Cut Peas. Peas and pieces of peas which have been chewed by insect larvae; not to be confused with weevil-bored peas containing insect webbing or filth. Any chewed pea is considered damaged.

(7) Chalky Peas. Peas that have a white spot caused by unusual weather conditions, some harvesting practices, and/or Lygus bug stings. (Do not scrape the cotyledon of suspect peas, merely remove their seedcoats.) Chalky peas are considered damaged peas, not weevil-damaged peas. (See ILS - Peas/S. Peas 1.0.)

(8) Damaged by Heat. Peas that have been damaged by heat to the extent that the cotyledon has been discolored equal to or greater than that shown on ILS - Peas/S. Peas 1.3.

c. Record the percent of damaged peas on the work record and the certificate to the nearest tenth percent.

4.21 OTHER CLASSES

Other Classes. Whole and pieces of dry peas which are of a contrasting color or which differ materially in shape, or other characteristics from the predominating class; and in the case of Miscellaneous Dry peas, which differ from the predominating type.

a. Determine other classes on a representative portion of approximately 250 grams.

b. Mixed peas rarely appear on the market. Slight mixtures sometimes occur affecting the quality or grade of peas. This is especially true of peas of widely different types.

(1) Examples of mixtures of other classes are Smooth Green Dry peas mixed with

Smooth Yellow Dry peas or vice versa.

(2) Wrinkled varieties found in smooth varieties always function as other classes even though the cotyledon and seedcoat may be the same color as the smooth peas. Conversely, smooth peas function as other classes when found in the wrinkled varieties.

c. Record the percent of other classes on the work record and the certificate to the nearest tenth percent.

4.22 BLEACHED PEAS

Bleached Peas. Whole and pieces of dry peas of green-colored varieties which are bleached distinctly yellow in color or peas of yellow-colored varieties which are bleached distinctly green in color. (The grade limits for the factor Bleached peas shall not apply to Miscellaneous Dry peas, except for Marrowfat-type Dry peas.)

a. Determine bleached peas on a representative portion of approximately 250 grams.

b. Bleached peas are usually caused by adverse weather conditions prior to and during harvest, or by storage.

c. Bleached green peas are green-colored varieties of peas with one-eighth or more of the surface distinctly bleached to a white or light creamy yellow color (see ILS - Peas/S. Peas 2.0). Bleached Yellow peas are yellow-colored varieties of peas with one-eighth or more of the surface distinctly bleached to a greenish color (see ILS - Peas/S. Peas 2.1).

NOTE: To facilitate the determination of this factor, the seedcoat may be partially removed to enable better examination of the cotyledon.

d. Record the percent of Bleached peas on the work record and the certificate to the nearest tenth percent.

4.23 SPLIT PEAS

Split Peas. The halves or smaller pieces of dry peas and dry peas in which the halves are loosely held together.

a. Determine split peas on a representative portion of approximately 250 grams.

b. Record the percent of split peas on the work record and the certificate to the nearest tenth percent.

4.24 SHRIVELED PEAS

Shriveled Peas. Dry peas which are distinctly shriveled in contrast to the natural shape and appearance of normally developed peas.

a. Determine shriveled peas on a representative portion of approximately 250 grams.

b. Shriveled (smooth-type) peas are usually discolored, misshapen, deeply dimpled, and/or withered in appearance. (See ILS - Peas 5.0 and 5.1.)

c. Care should be taken not to confuse "normal" wrinkled peas for shriveled peas. Wrinkled peas are considered shriveled if they are either slightly shriveled and distinctly discolored (caramelized), or slightly discolored with severe dimpling in the seedcoat. (See ILS - Peas 5.2.)

d. Record the percent of shriveled peas on the work record and the certificate to the nearest tenth percent.

4.25 PEAS WITH CRACKED SEEDCOATS

Peas with Cracked Seedcoats. Dry peas having readily discernible cracked seedcoats or peas which have all or a part of the seedcoat removed, and broken peas which are more than one-half of a whole pea.

a. Determine peas with cracked seedcoats on a representative portion of approximately 250 grams.

NOTE: When the brining method is used to determine weevil-damaged peas, do

not use the brined portion to determine peas with cracked seedcoats.

b. Do not consider the peas to be "peas with cracked seedcoats," if the cracked seedcoats can only be detected by rubbing the peas between your fingers. (See ILS - Peas 3.0.)

c. Record the percent of peas with cracked seedcoats on the work record and the certificate to the nearest tenth percent.

4.26 FOREIGN MATERIAL

Foreign Material. All matter other than dry peas, including detached seedcoats.

a. Determine foreign material on a representative portion of approximately 250 grams.

b. Record the percent of foreign material on the work record and the certificate to the nearest tenth percent.

4.27 SIZE REQUIREMENTS

Dry peas of any of the numerical grades shall be of such size that not more than 3.0 percent shall pass through the appropriate oblong-hole sieve as follows:

Peas	*Appropriate Sieve*
Winter Dry Peas	*9/64 " x 3/4 "*
Special Grade ASmall" Peas	*10/64 " x 3/4 "*
All Other Peas	*11/64 " x 3/4"*

Large. Peas of the classes Smooth Green Dry peas or Smooth Yellow Dry peas of which not more than 3.0 percent of the peas will readily pass through the 16/64-inch round-hole sieve.

Small. Peas of the classes Smooth Green Dry peas or Smooth Yellow Dry peas of which not more than 3.0 percent of the peas will remain on the 16/64-inch round-hole sieve and not more than 3.0 percent will readily pass through the 10/64-inch x 3/4-inch slotted-hole sieve.

a. Determine uniformity of size and/or the special grades "Large" and "Small" on a representative portion of approximately 250 grams.

(1) Size peas for determining uniformity, by sieving the representative portion with the appropriate size sieve (see table 2). For Mixed Dry peas and Miscellaneous Dry peas, use the sieve prescribed for the class of peas that predominates the mixture.

Table 2 - Prescribed Sieves

Classes	Sieves
Winter Dry Peas	9/64" x 3/4"
Special Grade ASmall@ Peas	10/64" x 3/4"
All Other Peas	11/64" x 3/4"

(2) Size smooth peas for determining special grade "Large" or "Small" by sieving the representative portion with the appropriate size sieve (see table 3). For Mixed Dry peas and Miscellaneous Dry peas, use the sieve prescribed for the class of peas that predominates the mixture.

Table 3 - Prescribed Sieves

Special Grade	Sieves
Large Smooth Dry Peas	16/64" round-hole
Small Smooth Dry Peas	16/64" round-hole and 10/64" x 3/4"

b. Size the peas as follows:

(1) Nest the appropriate size sieve(s) on top of a bottom pan.

(2) Place the sieve in a mechanical grain sizer so that the slotted perforations are parallel to the motion of the sizer and set the timer to 20.

(3) Put the representative portion in the center of the sieve and actuate the sizer.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation twenty times.

(4) Return the peas remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(5) Determine the percent of peas that pass through the sieve(s).

c. Record the percent of peas that pass through the sieve(s) and the size of sieve(s) used in the determination on the work record.

(1) When determining uniformity of size, if more than 3.0 percent of the peas pass through the sieve, record the percent that passed through in the ARemarks@ section of the certificate to the nearest tenth percent and grade the peas "U.S. Sample grade."

(2) When determining special grade "Large" or "Small:"

(a) If not more than 3.0 percent of the peas pass through a 16/64-inch round-hole sieve, show the special grade "Large" on the work record and on the grade line of the certificate.

(b) If not more than 3.0 percent of the peas remain on top of a 16/64-inch round-hole sieve and not more than 3.0 percent pass through a 10/64- x 3/4-inch sieve, show the special grade "Small" on the work record and on the grade line of the certificate.

NOTE: Upon request, the percentage of peas that will pass through a 9/64- x 3/4-inch, 10/64- x 3/4-inch, and/or 11/64- x 3/4-inch sieve may also be shown in the ARemarks@ section of the certificate.

4.28 COLOR

Good Color Peas. *Dry peas that in mass are practically free from discoloration and have the natural color and appearance characteristics of the predominating class.*

Poor Color Peas. *Dry peas that in mass are distinctly off-color from the characteristic color of the predominating class as a result of age or any other cause.*

a. Determine color on a representative portion of approximately 250 grams after the removal of defective peas and foreign material.

(1) Peas shall be considered as "poor color" if they are not of a good natural color or are stained to an extent that seriously affect the appearance of the lot.

(2) Peas that are discolored by dust or a slight amount of dirt, which can be removed by processing methods, shall not be considered as "poor color."

b. When peas are determined to be other than "good color," record this information on the work record and in the ARemarks@ section of the certificate.

4.29 BROKEN GLASS

a. Determine broken glass on the basis of the lot as a whole and/or the representative sample as a whole.

b. The presence of any broken glass (regardless of the size or amount) in the lot as a whole, work sample, or sample as a whole, shall be sufficient evidence of broken glass.

c. When applicable, show the term "Broken glass" on the work record and in the ARemarks@ section of the certificate, and grade the peas "U.S. Sample grade."

4.30 METAL FRAGMENTS

a. Determine metal fragments, such as metal filings or metal shavings, on the basis of the lot as whole and/or the sample as a whole.

b. Sufficient evidence of metal fragments shall be:

(1) Two or more metal fragments in the lot as a whole or the work sample; or

(2) One metal fragment in the work sample and one or more in the file sample.

c. When applicable, show the term "Metal fragments" on the work record and in the ARemarks@ section of the certificate, and grade the peas "U.S. Sample grade."

4.31 DISTINCTLY LOW QUALITY

Distinctly Low Quality. Whole dry peas which are obviously of inferior quality because they are stained by an unknown foreign substance or because they otherwise contain a known toxic substance(s) or an unknown foreign substance(s) or because they are in an unusual state or condition, and which cannot be graded by use of the other grading factors provided in the standards.

a. Determine distinctly low quality on the basis of the lot as a whole or the representative sample as a whole.

b. Peas that are obviously affected by unusual conditions which adversely affect the quality of the peas, such as animal excreta or other filth, unknown foreign substance, or treatment with a fungicide, shall be considered to be "distinctly low quality."

c. When applicable, show the statement "Distinctly low quality on account of (cause or reason)." on the work record and in the ARemarks@ section of the certificate, and grade the peas "U.S. Sample grade."

4.32 INTERPRETIVE LINE SLIDES

The interpretive line slides (ILS) system assists inspectors in making subjective grading decisions. This system consists of a portable tabletop transparency viewer and photographic slide transparencies. The viewer uses a precisely controlled light source of low intensity designed to provide a standard picture and to protect the slide. Therefore, only use the special viewer for ILS. Other light sources, such as a regular slide projector, may provide a distorted picture and damage the ILS. Use of such a projector is not prohibited; but, once used in this manner, the slides may not be used for official purposes.

Table 4
Currently Available Interpretive Line Slides

PEAS/S.PEAS-1.0	DAMAGE - CHALK SPOT
PEAS-1.1	DAMAGE - DIRT /GRIME
PEAS/S.PEAS-1.2	DAMAGE - HEAT
PEAS/S.PEAS-1.3	DAMAGED-BY-HEAT
PEAS-1.4	DAMAGE - MOLD
PEAS-1.5	DAMAGE - SPROUT
PEAS-1.6	DAMAGE - WEEVIL
S.PEAS-1.61	DAMAGE - WEEVIL
PEAS -1.7	WEEVIL DAMAGE (Insect Stung)
PEAS-1.8	DAMAGE - FROST
PEAS/S.PEAS-2.0	BLEACHED - GREEN PEAS
PEAS/S.PEAS-2.1	BLEACHED - YELLOW PEAS
PEAS-3.0	CRACKED SEEDCOAT
S.PEAS-4.0	STAINED - GREEN
S.PEAS-4.1	STAINED - YELLOW
PEAS-5.0	SHRIVELED - SMOOTH
PEAS-5.1	NOT SHRIVELED
PEAS-5.2	SHRIVELED - WRINKLED
PEAS-5.3	BACTERIUM STAINED PEAS
PEAS-5.4	WEATHER DAMAGE

PAGE RESERVED

Attachment
PEA AND LENTIL HANDBOOK
Chapter 4
Dockage-Free Peas
8/1/98

GRADES AND GRADE REQUIREMENTS FOR DOCKAGE-FREE PEAS

Grading Factors	Maximum percent limits of: Grades U.S. Nos. 1/		
	1	2	3
Weevil-Damaged Peas	0.3	0.8	1.5
Heat-Damaged Peas	0.2	0.5	1.0
Damaged Peas 2/	1.0	1.5	2.0
Other Classes 3/	0.3	0.8	1.5
Bleached Peas 4/	1.5	3.0	5.0
Split Peas	0.5	1.0	1.5
Shriveled Peas	2.0	4.0	8.0
Peas with Cracked Seedcoats	5.0	7.0	9.0
Foreign Material	0.1	0.2	0.5
Minimum Requirements for Color	Good	Good	Poor

U.S. Sample grade: U.S. Sample grade shall be dockage-free peas which:

(a) Do not meet the requirements for the grades U.S. Nos. 1, 2, or 3; or
(b) Contain metal fragments, broken glass, or a commercially objectionable odor; or
(c) Contain more than 15 percent moisture; or
(d) Are materially weathered, heating, or distinctly low quality; or
(e) Are infested with live weevils or other live insects. 5/

1/ Uniformity of Size Requirements - Dry peas of any of the numerical grades shall be of such size that not more than 3.0 percent shall pass through the appropriate oblong-hole sieve as follows:
Winter Dry peas ..... 9/64" x 3/4"
Special grade ASmall@ peas ..... 10/64" x 3/4"
All other peas ..... 11/64" x 3/4"

2/ Damaged peas do not include weevil-damaged or heat-damaged peas.

3/ These limits do not apply to the class Mixed Dry peas.

4/ These limits do not apply to Winter Field peas and Wrinkled peas.

5/ As applied to dockage-free whole dry peas, the meaning of the term Ainfested@ as set forth in the Pea and Lentil Inspection Handbook.